



**The Comptroller General  
of the United States**

Washington, D.C. 20548

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## **Decision**

**Matter of:** Aydin Corporation  
**File:** B-227817  
**Date:** September 28, 1987

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### **DIGEST**

1. Where solicitation requires offerors to submit alternate price proposals for all, two-thirds and one-third of the total required quantity and each alternate includes base and option items, solicitation reference to evaluation based upon the total price for options and basic requirement does not require agency to base award for two-thirds of total quantity on prices for the entire quantity, since offers generally must be evaluated on the basis of work actually awarded.
2. Where solicitation required offerors to demonstrate the ability to meet the statement of work requirement for reverse engineering by reverse engineering a component of the microwave radio being procured, agency did not act unreasonably in placing more emphasis in its evaluation on the protester's failure to demonstrate a functional understanding of the component than on the protester's prior experience with other microwave radios.
3. Where solicitation required offerors to demonstrate the ability to meet the statement of work requirement for reverse engineering by reverse engineering a component of the microwave radio being procured and the protester learned of the inadequacy of its demonstration at the time of the demonstration, a general reference in a subsequent deficiency notice to the failure to demonstrate a functional understanding of the equipment satisfied the requirement for meaningful discussions.

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### **DECISION**

Aydin Corporation protests the award of a contract to Unisys Corporation under request for proposals No. F19628-86-R-0065, issued by the Department of the Air Force, Electronic Systems Division, for the AN/TRC-170 Digital Troposcatter Radio. Aydin challenges the Air Force's evaluation of its proposal and contends that the agency failed to conduct

meaningful discussions concerning perceived weaknesses. We deny the protest.

The Air Force issued the solicitation to establish a second source for production of the AN/TRC-170 Digital Troposcatter Radio. Although the radio was developed for the Air Force by the Raytheon Company beginning in 1976 and the agency has entered into contracts with Raytheon for the production of over 200 units, the government never acquired the technical documentation necessary for production by another contractor. Accordingly, in order to establish a second source, the solicitation required the awardee to perform reverse engineering using government-furnished radios and to generate a production documentation package sufficient to manufacture, test and deliver the radios. The solicitation contemplated award of one or more fixed-price contracts for all, two-thirds or one-third of the required quantity, plus option quantities.

The solicitation provided for evaluation of technical proposals based upon four factors of equal importance--reliability, engineering, manufacturing, and test and evaluation--and one factor of lesser importance--management. In addition, the solicitation stated that a significant general consideration in making award would be the offeror's past and present performance on recent, similar government contracts. The solicitation required offerors to submit alternate price proposals for the three possible award quantities. It provided that price and cost, though less important than technical considerations, nevertheless would be a significant factor for award; that the cost effectiveness of establishing a second source and of possibly splitting the total quantity between the incumbent contractor and a second source would be evaluated; and that the offeror's prices would be evaluated for award by adding the total price for all options to the total price for the basic requirement.

The Air Force included all six of the proposals it received in the competitive range. After conducting written and oral discussions and obtaining best and final offers, the agency made award to Raytheon for one-third of the total quantity and to Unisys for the remaining two-thirds. In deciding upon award to Unisys, the Air Force determined that Aydin's lower price--\$88,772,342 versus Unisys' price of \$95,432,103 for the items to be awarded--was offset by the technical superiority of Unisys' proposal. Upon learning of the subsequent awards, Aydin filed this protest against the award to Unisys.

## PRICE EVALUATION

Aydin first challenges the evaluation of prices, arguing that the statement in the solicitation that prices would be evaluated by adding the total price for all options to the total price for the basic requirement required that the evaluation for the two-thirds award to Unisys be based upon the prices offered for the total quantity. This argument is without merit.

Although the language of the solicitation may be subject to Aydin's interpretation, we find Aydin's interpretation that award for a specific quantity should be based on prices for a different quantity to be patently unreasonable. The only reasonable interpretation of the solicitation is that evaluation for award of a particular quantity would be based upon the total price offered for the base and option items under that quantity. Our interpretation is in accord with the general principle that offers must be evaluated on the basis of the work actually awarded; any evaluation that incorporates more or less than the work that will be awarded fails to obtain for the government the benefits of full competition on the work that will be performed. See generally Martin J. Semko Construction, Inc. 60 Comp. Gen. 327, 81 CPD ¶ 209; Rocky Ridge constructors, Inc., B-224862, Dec. 19, 1986, 86-2 CPD ¶ 691. Furthermore, we fail to see any prejudice to Aydin from the agency's price evaluation, since it appears that Aydin's 7.5 percent price advantage over Unisys for the two-thirds quantity actually is reduced to a 5.1 percent advantage when the prices for the total quantity are considered.

## TECHNICAL EVALUATION/REVERSE ENGINEERING

Aydin also challenges the Air Force's evaluation of its technical proposal. The Air Force concluded that the overall risk to the government associated with accepting Aydin's proposal would be high and determined that acceptance was likely to lead to a significant, serious schedule disruption. The agency primarily considered the proposal to be technically inferior to Unisys' because Aydin had failed to demonstrate the functional understanding of the AN/TRC-170 hardware necessary for reverse engineering. Aydin disputes the agency's conclusions concerning perceived weaknesses and argues that, in any case, the agency failed to conduct meaningful discussions in this regard.

The solicitation cautioned offerors that "it is imperative to keep in mind that this acquisition is not a build to print effort" and that the contractor would be responsible for that level of reverse engineering of the government-furnished radios necessary so that the equipment procured

under the contract would be interoperable and interchangeable with existing AN/TRC-170 equipment. The solicitation provided for a manufacturing management/production capability review to be conducted as part of the evaluation of proposals; during the review offerors would be required to provide an in-depth demonstration of their approach to reverse engineering, by reverse engineering the AN/TRC-170 modem digital demodulator circuit card assembly (CCA), a component of the radios, and discussing in detail the documentation package they developed for its manufacture and testing.

The CCA was made available to offerors when the solicitation was issued on June 6, and on October 30 and 31, the Air Force conducted the review at Aydin's plant. The agency reports that while Aydin was able adequately to discuss the analog signal processing function of the CCA, it was unable to discuss the digital signal processing function either on October 30 or the next day (when the agency provided an additional opportunity at Aydin's request). The agency further reports that Aydin also failed to respond to a written request to express in writing the mathematical equations describing the transfer function of the CCA. According to the agency, it advised Aydin that their presentations had not adequately demonstrated a functional understanding of the CCA.

In February, after conducting oral discussions and several rounds of written discussions, the Air Force sent Aydin the following deficiency notice:

"Despite previous experience manufacturing Troposcatter Radios, the proposed approach to reverse engineering and the demonstration of that approach on the digital demodulator CCA during the [review] did not reflect a . . . functional understanding of the operational performance characteristics of the terminal equipment.

The government considers the lack of such understanding a weakness which could impact the offeror's ability to successfully replicate the TRC-170 hardware."

In its response, Aydin acknowledged that:

"It was clear at the conclusion of the [review] that [the agency's] representatives felt that a less than adequate demonstration had been made, and Aydin understands the reasons for that view. However, Aydin's performance was heavily influenced by some incorrect assumptions regarding what

the Government desired, and in the level of preparation that flowed from those assumptions. In short, our preparation was inadequate and the resulting discussions/demonstration did not properly reflect the depth of Aydin's expertise and functional insights into Troposcatter systems."

Although its response included a proposal to hire engineers with AN/TRC-170 experience and to undertake parallel reverse engineering efforts to build two prototypes of each CCA, Aydin did not further address the operation of the CCA. Agency evaluators viewed its continued failure to present a functional understanding of the CCA as evidence that Aydin had still not demonstrated the required functional understanding of the technology. Accordingly, they found that the risk specifically associated with Aydin's proposed approach to reverse engineering was so high as to render the proposal technically inferior.

By contrast, agency evaluators found that Unisys had assembled a well-organized, technically competent engineering team and proposed a thorough and technically sound approach for reverse engineering the AN/TRC-170 radio. According to the evaluators, Unisys had recognized the complexity of the CCA, as evidenced by its proposal of a parallel reverse engineering effort using a subcontractor and a consultant familiar with troposcatter modems and its proposal of sophisticated automatic test equipment. Moreover, Unisys had actually used these resources in demonstrating a functional understanding of the CCA at the review.

Aydin disputes the evaluation of its reverse engineering approach. The protester explains that it was unable to respond to the agency's questions concerning the digital function of the CCA because of a lack of test equipment; it contends that the solicitation failed to give adequate notice of the questions to be asked at the demonstration (and thus of the need for the equipment). It further argues that the agency has overemphasized the significance of demonstrating the reverse engineering of one of several CCA's in the AN/TRC-170 radio, while ignoring Aydin's extensive experience with troposcatter radios. In this regard, we note that Aydin referenced in its proposal its contracts to build an earlier analog troposcatter radio (the AN/TRC-97), its contracts to upgrade that radio to include a digital capability (the AN/GRC-201 radio), and several foreign contracts for troposcatter radios. The protester points out that Unisys, by contrast, has not previously manufactured troposcatter radios.

We find that the agency's evaluation was reasonable and consistent with the solicitation. The solicitation established the production capability review as a mechanism by which offerors could demonstrate the capability of reverse engineering the AN/TRC-170 radio, the prerequisite to satisfying the agency's need for a second source, and specifically called for an in-depth demonstration based on the reverse engineering of an AN/TRC-170 component (the CCA), and a detailed discussion of the documentation package the offeror had prepared for its manufacture and testing. Despite this notice of the broad scope of the required demonstration, Aydin's preparations for the review were inadequate, as Aydin acknowledged in its response to the deficiency notice. Moreover, despite learning of the inadequacy of its demonstration from agency representatives at the review and notice in the solicitation of the importance of the demonstration, Aydin did not take advantage of subsequent negotiations to demonstrate an understanding of the digital, as well as analog, functions of the CCA.

Given these circumstances, we believe the agency acted reasonably in placing greater reliance on a failure to provide the required in-depth demonstration of a current capability to reverse engineer actual AN/TRC-170 components than on experience under other contracts. In any case, we note that the agency received official reports from other contracting activities, which it reasonably relied upon, suggesting that the quality of Aydin's prior performance was inconsistent. For example, the record shows that Air Force evaluators were advised that the manufacturing drawings for Aydin's AN/GRC-201 troposcatter radio were delivered 5 years late, that the documentation in a technical manual for radar relay terminals was considered so poor as to be grounds for termination, and that the government is considering terminating for default another contract for microwave radio systems because the equipment fails to conform to the specifications.

Aydin also challenges the adequacy of discussions concerning the production capability review, pointing out that it was told that any conclusions by the agency concerning deficiencies in its proposal would be communicated by means of deficiency notices and clarification requests; it argues that the agency's failure specifically to mention the mathematical expression of the transfer function during subsequent discussions misled it into believing that the Air Force was satisfied with its demonstration.

Although we would agree with Aydin that the Air Force could have been more specific in its deficiency notice, the real question here is whether the notice imparted sufficient information to Aydin to afford it a fair and reasonable

opportunity, in the context of this procurement, to identify and correct deficiencies in its proposal. See generally Joule Technical Corp., B-197249, Sept. 30, 1980, 80-2 CPD ¶ 231. In this regard, while agencies generally must conduct written or oral discussions with all responsible offerors within a competitive range, advising them of deficiencies in their proposal so that they have an opportunity to satisfy the government's requirements, see Federal Acquisition Regulation (FAR), 48 C.F.R. § 15.610 (1986), the requirement for meaningful written or oral discussions does not mean that offerors are entitled to all-encompassing discussions; rather, agencies are only required to lead offerors into areas of their proposal needing amplification. Northwest Regional Education Laboratory, B-222591.3, Jan. 21, 1987, 87-1 CPD ¶ 74.

We believe the discussions were adequate. The solicitation specifically required offerors to demonstrate their capability of reverse engineering the AN/TRC-170 radio by reverse engineering the modem digital demodulator CCA. The agency reports that Aydin repeatedly failed at the review adequately to discuss the digital signal processing function of the CCA despite being given additional time as requested, and that as already noted, Aydin also failed to respond to a written request to express mathematically the transfer functions of the CCA. The agency's report, in conjunction with Aydin's acknowledgement in its response to the deficiency notice that it learned from the Air Force's representatives at the review that its answers to the agency's questions were inadequate, persuade us that Aydin should have known the basis for the general reference in the deficiency notice to Aydin's failure to demonstrate at the review a functional understanding of the performance characteristics of the terminal equipment, and that this notice thus met the requirement for meaningful discussions.

The Air Force found other deficiencies in Aydin's technical proposal, but informs us that the weakness of Aydin's approach in reverse engineering by itself justified the award to Unisys instead of Aydin. Since reverse engineering of the AN/TRC-170 radio is a prerequisite to successful performance of the statement of work, we see no basis to

question this conclusion. Accordingly, we need not address Aydin's challenge to the other perceived weaknesses in its technical approach.

The protest is denied.

*for* *Seymour Efron*  
Harry R. Van Cleve  
General Counsel